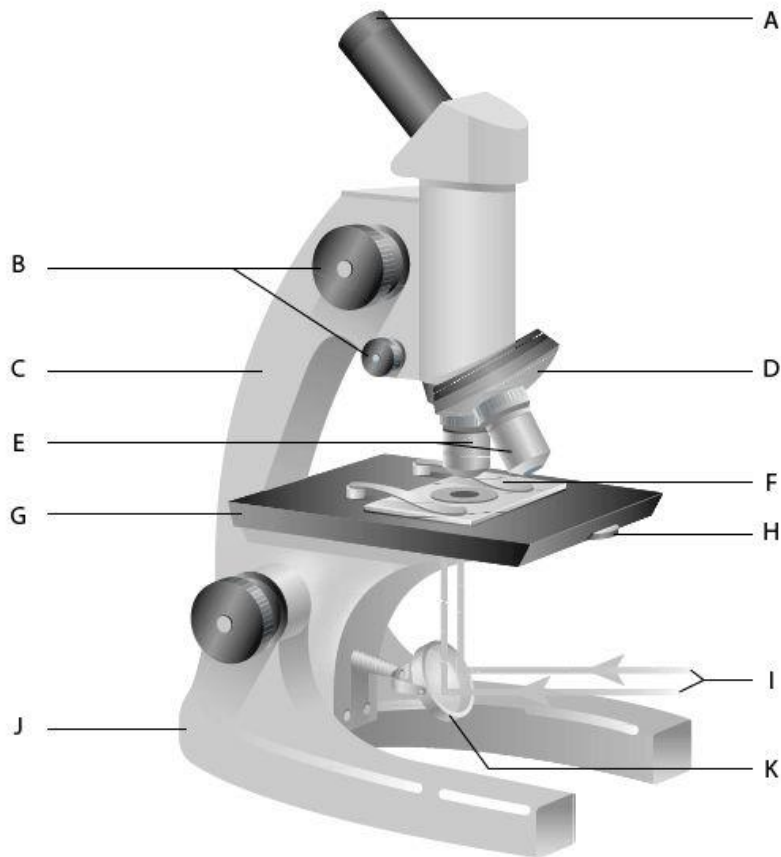


## Microbe Mission Test 2018

Team # \_\_\_\_\_ Team Color \_\_\_\_\_ School Name: \_\_\_\_\_

Student Names \_\_\_\_\_



Fill in the letter that points to this part of the microscope.

1. Diaphragm \_\_\_\_\_

2. Stage Plate \_\_\_\_\_

3. Objectives \_\_\_\_\_

4. Light Source \_\_\_\_\_

5. Adjustment Knobs \_\_\_\_\_

6. Nose Piece \_\_\_\_\_

7. Ocular Lens \_\_\_\_\_

8. Arm \_\_\_\_\_

9. Base \_\_\_\_\_

10. Total Magnification is...

- a) 2 x ocular magnification
- b) Ocular magnification x objective magnification
- c) 2 x objective magnification
- d) Ocular magnification + objective magnification

11. If you are looking at the letter 'e' through a microscope, it will appear...

- a) As is
- b) Inverted
- c) As a mirror image
- d) Inverted and reversed

12. If the ocular is 12x, and the objective is 43x, the total magnification is...

- a) 310
- b) 55
- c) 516
- d) 552

13. A student observes a specimen under high 400x power, and then switches back to low 100x power. How will the appearance of the image change?

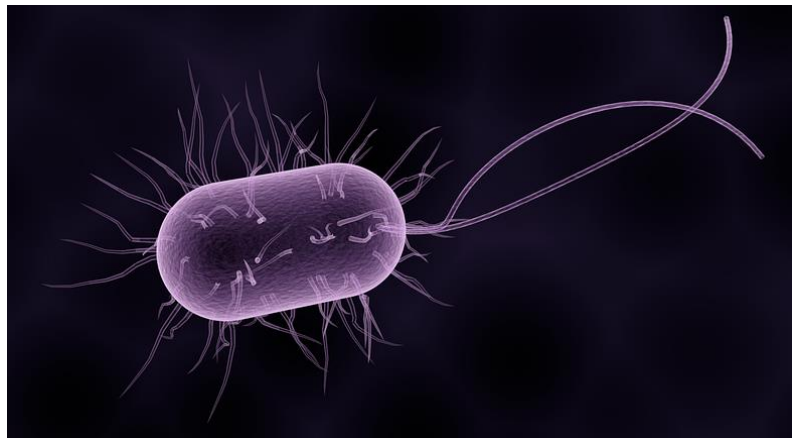
- a) Larger and darker
- b) Smaller and darker
- c) Smaller and brighter
- d) Larger and brighter

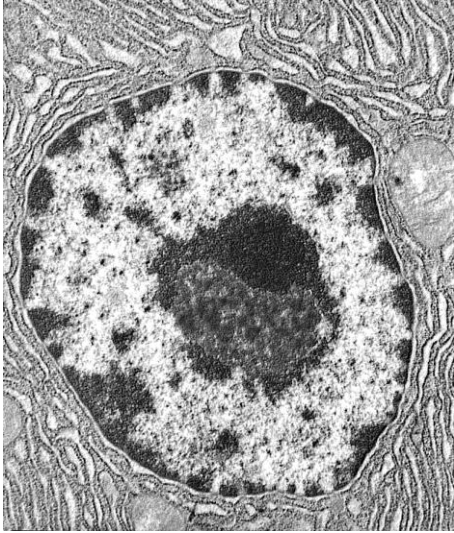
14. When you switch from low power to high power, what happens to the depth of focus?

- a) It will be greater
- b) It will be less
- c) It will remain the same
- d) It will be nonexistent

15. This magnified image (at right) is of which type of microbe?

- a) Bacteria
- b) Prion
- c) Virus
- d) Protist



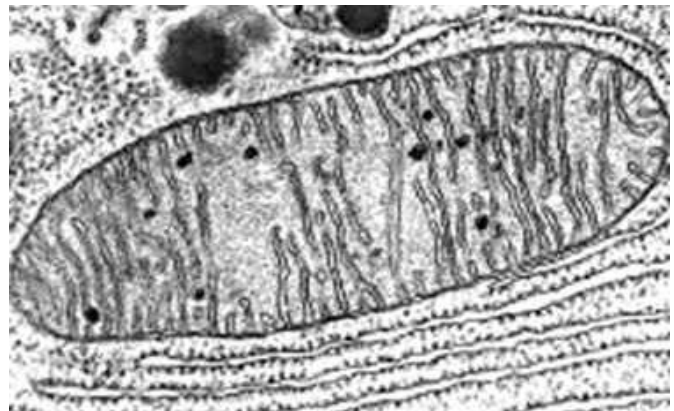


16. Which organelle is this? (at left)

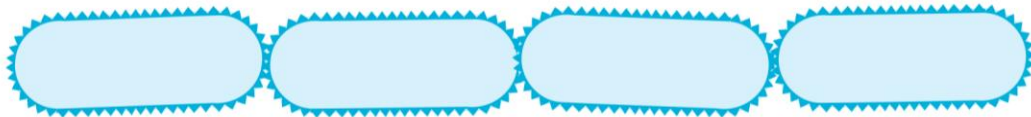
- a) Chloroplast
- b) Nucleus
- c) Plant cell
- d) Mitochondria

17. Which organelle is this? (at right)

- a) Eukaryotic cell
- b) Mitochondria
- c) Ribosome
- d) Nucleus

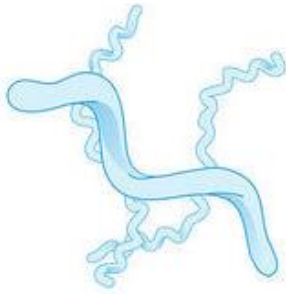


18. What bacterial shape is this?



- a) Bacillus
- b) Diplobacilli
- c) Streptobacilli
- d) Coccobacilli

19. What bacterial shape is this?



- a) Vibrio
- b) Spirillum
- c) Streptococcus
- d) Diplobacilli

20. Which of these microbes would most likely be found in anaerobic environments, high salt concentrations, or hot acid environments?

- a) Archaea
- b) Bacteria
- c) Algae
- d) Prion

21. These green fuzzies on what used to be a piece of bread are most likely which of the following?



- a) Fungus
- b) Algae
- c) Virus
- d) Bacteria

22. Which of these would be considered acellular?

- a) Archaea

- b) Bacteria
- c) Virus
- d) Algae

23. Which of these groups is arranged from smallest to largest in size?.

- a) Atom, Virus, Prokaryote
- b) Prokaryote, Virus, Eukaryote
- c) Virus, Protein, Atom
- d) Virus, Protein, Prokaryote

24. The color of this lake is most likely due to...



- a) High iron content
- b) Bacterial colonies
- c) Algal bloom
- d) Fungal frothing

25. Wine-making and brewing involve which type of microbe?

- a) Yeast
- b) Bacteria
- c) Protozoa
- d) Algae

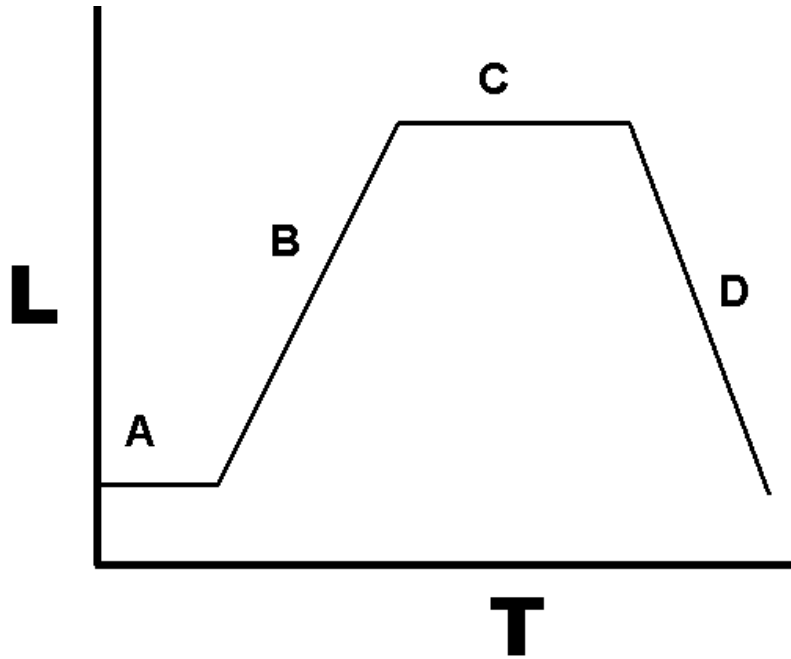
26. Fill in the corresponding letter from the choices on the right. (Some letters may be used more than once.)

- I. Malaria \_\_\_\_
- II. Kuru \_\_\_\_

- III. Schistosomiasis \_\_\_\_
- IV. Hepatitis \_\_\_\_

- V. Strep Throat \_\_\_\_
- VI. Thrush \_\_\_\_
- VII. Zika \_\_\_\_
- VIII. Trichinosis \_\_\_\_
- a) Viral disease
- b) Bacterial disease
- c) Fungal disease
- d) Protozoan/Algal disease
- e) Parasitic worm
- f) Prion disease

27. In the bacterial growth curve below, which letter indicates...



- I. Lag Phase? \_\_\_\_
- II. Death Phase? \_\_\_\_
- III. Exponential Phase? \_\_\_\_
- IV. Stationary Phase? \_\_\_\_

28. Which of these diseases is most likely to be transmitted by ticks?

- a) Thrush
- b) Malaria
- c) Mumps
- d) Lyme Disease

29. Match the disease to the body system/organ it affects.

- I. Hepatitis \_\_\_\_
- II. Mumps \_\_\_\_
- III. Pertussis \_\_\_\_
- IV. Polio \_\_\_\_
- V. Peptic Ulcer Disease \_\_\_\_
- a) Nervous System
- b) Digestive System
- c) Liver
- d) Salivary Glands
- e) Respiratory System

30. Lichens are a symbiotic association between a photosynthetic organism and a...
- a) Protozoan
  - b) Fungus
  - c) Virus
  - d) Bacterium
31. A single, mobile cell has a small and a large nucleus when viewed through a microscope. What is it most likely to be?
- a) Protozoan
  - b) Bacterium
  - c) Virus
  - d) Fungus
32. Which group of microbes does NOT have a cell wall?
- a) Archaea
  - b) Animal-like protists
  - c) Fungi
  - d) Eubacteria
33. The MMR vaccination protects against which diseases?
- a) MRSA, Mumps, Rabies
  - b) MRSA, Mononucleosis, Rocky Mountain Spotted Fever
  - c) Malaria, Measles, Rabies
  - d) Measles, Mumps, Rubella
34. Which of these microbes are composed primarily of protein?
- a) Bacteria
  - b) Eukaryotic Cell
  - c) Prion
  - d) Fungi
35. Which of these are beneficial bacteria?
- a) Meningococcus
  - b) Staphylococcus Aureus
  - c) Lactobacillus Acidophilus
  - d) Clostridium Tetani

36. Which type of microscope is most suitable for the following? (Some letters may be used more than once.)

- |   |                              |
|---|------------------------------|
| I. Viewing internal cell details            | a) SEM                       |
| II. Diagnosing microbial infections         | b) TEM                       |
| III. Examining the surface of pollen grains | c) Fluorescence Microscope   |
| IV. Viewing structures of cells and viruses | d) Phase Contrast Microscope |
| V. Creating a 3D view of objects            |                              |

37. Antibiotics are used to treat diseases caused by which type of microbe?

- a) Archaea
- b) Fungi
- c) Virus
- d) Bacteria

38. A localized infection...

- a) Is limited to one city
- b) Involves many organs or tissues
- c) Is limited to one organ or system
- d) Is always caused by protozoa

39. Beginning with “Agent”, arrange these words by their corresponding letters to form the Chain of Infection.

- A. Reservoir
- B. Susceptible Host
- C. Portal of Exit
- D. Portal of Entry
- E. Mode of Transmission

**Agent** \_\_\_\_\_

40. Beneficial bacteria inside the human gut is an example of...

- a) Parasitism
- b) Mutualism
- c) Commensalism
- d) Susceptibility

41. \*List two similarities and two differences between prokaryotic and eukaryotic cells.\*

Similarities: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Differences: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_